

CLAIMS

1 A wireless communication antenna including plural antenna element patterns connected through a switch or switches formed on an antenna board, and

 having plural resonance frequencies selected by switching connecting state of the antenna element patterns by the switch or switches.

2 The wireless communication antenna as set forth in claim 1, wherein the switch is comprised of MEMS (Micro-Electro-Mechanical-System) switch element, and is buried in the antenna board comprised of multi-layer substrate.

3 A wireless communication apparatus comprising:
 a wireless communication antenna including plural antenna element patterns connected through a switch or switches formed on an antenna board, and having plural resonance frequencies selected by switching connecting state of the antenna element patterns by the switch or switches;

 plural communication circuits having communication bands different from each other, which are connected to the wireless communication antenna; and

 a control unit for performing, in accordance with a communication band used, a control to select the communication circuit, and to select the resonance frequency of the wireless communication antenna.

4 The wireless communication apparatus as set forth in claim 3,
 wherein the control unit performs a control to automatically determine
the communication band used in accordance with operation mode which can
be set in advance to select the communication circuit, and to select the
resonance frequency of the wireless communication antenna.

5 The wireless communication apparatus as set forth in claim 3,
 wherein the control unit performs a control to automatically determine
the communication band used on the basis of signal reception intensities
obtained from the respective communication circuits to select the
communication circuit, and to select resonance frequency of the wireless
communication antenna.

6 The wireless communication apparatus as set forth in claim 3,
 wherein the switch of the wireless communication antenna is
comprised of MEMS switch element, and is buried in the antenna board
comprised of multi-layer substrate.